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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/936,387	12/18/2001	John Montgomery Hamilton	9013-38	2937

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EXAMINER	
VERBITSKY, GAIL KAPLAN	

ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 11/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/936,387	HAMILTON ET AL.	
	Examiner	Art Unit	
	Gail Verbitsky	2859	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8 and 10-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8 and 10-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-7, 12-19 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell (U.S. 2102678) and Manske (U.S.5213378).

Campbell discloses in Figs. 1, 3 a max/ min thermometer comprising an expansion liquid 22 which expands/ contracts in response to a temperature change and moves a transfer/ thermometric liquid 24 and two indicating means/ indexes 26, 28 made of a magnetizable material along a tube.

Campbell does not teach that the transfer liquid 24 is mercury free, as stated in claim 1. Campbell does not teach the particular aqueous solution/ material for the transfer liquid and the particular liquid/ material for the expansion liquid, as stated in claim 9, with the remaining limitations of claims 1-7, 18-19.

Manske discloses in Fig. 1 a thermometer indicator comprising a hollow tube 6, a colorless (organic compound/ liquid) expansion liquid 10 which undergoes volume change as the result of temperature change. When it constricts, it draws a transfer liquid (separating liquid/ substance/ not mercury) 14 that is immiscible with the expansion liquid 10 (col. 4, line 29). The transfer liquid 14 is an aqueous salt solution (inorganic)

and is capable of being dyed (by a suitable dye). The working temperature is from below water freezing point to 127.4 degrees F (53 degrees C).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the transfer liquid in the thermometer disclosed by Campbell, with the transfer liquid, as taught by Manske, because both of them are alternate types of transfer liquids which will perform the same function, of moving in response to volume change of the expansion liquid and indicating temperature, if one is replaced with the other.

With respect to the particular temperature range, i.e., -30 degrees C and +50 degrees C, when the transfer liquid remains liquid (working range), as stated in claim 5: the particular temperature range, absent any criticality, is only considered to be the "optimum" temperature range, that a person having ordinary skill in the art at the time the invention was made would have been able to determine using routine experimentation based, among other things, on the temperature to be measured and the environment the device is to be used. In re Boesch, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the thermometer, disclosed by Campbell, to operate in the temperature range of -30 degrees C and +50 degrees C, so as to allow the operator to monitor the temperature, for example, of a food product kept in a refrigerator, in order to maintain its safety.

With respect to the particular density of the transfer liquid relative to the expansion liquid, and the indexes relative to the transfer liquid, as stated in claims 2-4, 19 respectively: the particular liquids/ materials, with particular densities, absent any criticality, is only considered to be the "optimum" liquids/ materials/ densities, that a person having ordinary skill in the art at the time the invention was made would have

been able to determine using routine experimentation based, among other things, on the particular temperature range to be measured and the environment the device is to be used. In re Boesch, 205 USPQ 215 (CCPA 1980).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the transfer liquid with a lower density than the expansion liquid and the indexes of a material with a density lower than the density of the transfer liquid, for the device disclosed by Campbell, so as not to allow them to unexpectedly mix, in order to provide a desired accuracy of the device within a desired temperature range.

With respect to the particular liquid/ material used for the expansion liquid, as stated in claim 18: the particular material, i.e., hydrocarbon, used for the expansion liquid, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the expansion liquid, disclosed by Campbell, since it has been held to be a matter of obvious design choice and within the general skill of worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to choose the expansion liquid in the thermometer disclosed by Campbell made of hydrocarbon because hydrocarbon is known to expand/ constrict within a selected temperature range.

With respect to the particular liquid/ material used for the transfer liquid, as stated in claims 12-17: the particular material, i.e., ionic compound, alkali metal salt, and its particular weight, etc., used for the transfer liquid, absent any criticality, is only considered to be the "optimum" material that a person having ordinary skill in the art at the time the invention was made using routine experimentation would have found obvious to provide for the transfer liquid, disclosed by Campbell, since it has been held

to be a matter of obvious design choice and within the general skill of worker in the art to select a known material on the basis of its suitability for the intended use of the invention. In re Leshin, 125 USPQ 416.

3. Claim 8 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 12-19 above, and further in view of Bealing et al. (U.S. 5990199) [hereinafter Bealing].

Campbell and Manske disclose the device as stated above in paragraph 2

They do not teach the particular dye, i.e., Aniline Blue, for the transfer liquid, as stated in claim 8.

With respect to the particular dye, i.e., Aniline Blue, as stated in claim 8: it is very well known in the art to use Aniline Blue dye to achieve a stable coloring of liquids. See, for example, Bealing, who teaches a device wherein aniline Blue is being used as a dye to achieve a stable color.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dye the transfer liquid, disclosed by Campbell and Manske, with Aniline Blue, as taught by Bealing, so as to allow the operator to obtain a clear visible indication of the temperature when the indexes are not visible enough for an operator with a low vision.

4. Claim 20 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 12-19 above, and further in view of GB0001967/ GB041882 [hereinafter GB].

Campbell and Manske disclose the device as stated above in paragraph 2.

They do not teach the limitations of claim 20.

GB discloses indexes ***c, d*** enclosed in a glass tube.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enclose the indexes, disclosed by Campbell and Manske, in a glass tube, as taught by GB, so as to protect them from possible corrosion when in a direct contact with the transfer/ expansion liquid, and thus, to achieve a desired accuracy and an aesthetic design of the device.

5. Claims 10-11 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 12-19 above, and further in view of Hickman (U.S. 1942857).

Campbell and Manske disclose the device as stated above in paragraph 2.

They do not teach the particular liquid for the transfer liquid, as stated in claims 10-11.

Hickman disclose a device wherein a transfer liquid comprises a halogenated hydrocarbon, diethylene glycol. Hickman states that these materials are good lubricants and hardly soluble in an expansion liquid.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the transfer liquid, disclosed by Campbell and Manske, comprises a halogenated hydrocarbon, diethylene glycol, as taught by Hickman, because these particular material are good lubricants which will allow the transfer liquid to move along the tube, and not soluble in the expansion liquid, thus, providing a clear indication along the tube.

6. Claim 21 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Campbell and Manske as applied to claims 1-7, 12-19 above, and further in view of Bernard.

Campbell and Manske disclose the device as stated above in paragraph 2.

They do not teach the particular material to make indexes.

Bernard describes a marking plate/ index made of plastic with a magnetic powder injected (mixed).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the indexes, disclosed by Campbell and Manske, with the indexes made of a material comprising plastic mixed with a magnetic powder, as taught by Bernard, because both of them are alternate types of magnetic material indexes which will perform the same function, of providing an indication, if one is replaced with the other.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Response to Arguments

8. Applicant's arguments filed August 06, 2004 have been fully considered but they are not persuasive.

Applicant states that the present invention is different from Manske who teaches a single use disposable temperature indicator (as opposed to the present invention). This argument is not persuasive because the limitation stating that the thermometer of the present invention is not disposable, is not stated in the claims. It is the claims that define the claimed invention, and it is claims, not specification that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7 USPQ2d 1064.

Applicant states that Manske is not capable of exhibiting both the high and low temperatures reaches during a particular time period. This argument is not persuasive because this limitation is not stated in the claims. It is the claims that define the claimed

invention, and it is claims, not specification that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7 USPQ2d 1064.

Applicant states that there is no indication that the separating substance 14 of Manske is capable of moving an index. This argument is not persuasive because this limitation (that the transfer liquid moves the index) is not stated in the claims. It is the claims that define the claimed invention, and it is claims, not specification that are anticipated or unpatentable. Constant v. Advanced Micro-Devices, Inc., 7 USPQ2d 1064.

Also, the Examiner, in her rejection on the merits, only uses Manske as a secondary reference. The combination of Campbell and Manske is capable of moving indexes because Campbell teaches that the indexes are being moved. In addition, the Examiner, in her rejection on the merits, uses Manske as a secondary reference to show that the transfer liquid can be made of the particular material.

Applicant states that the Examiner does not have a motivation to combine Campbell and Manske. This argument is not persuasive because, A) once again, in the rejection on the merits, the Examiner uses Manske as a secondary reference, only for its teaching of the particular liquid/ material for the transfer liquid, B) in response to applicant's argument that there is no suggestion to combine references, the Examiner recognizes that there should be some reason why one skilled in the art would be motivated to make the proposed combination of primary and secondary references. In re Nomiya, 184 USPQ 607 (CCPA 1975). However, there is no requirement that a motivation to make the modification be expressly articuated. the test for combining

references is what the combination of disclosures taken as a whole would suggest to one od ordinary skill in the art. In re McLaughlin, 170 USPQ 209 (CCPA 1971. The references are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. In re Bozek, 163 USPQ 545 (CCPA) 1969.

Conclusion

9. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related devices and methods. DE 2552385 discloses a thermometer having an expansion and another (transfer) liquid. Said another liquid of DE 2552385 is mercury.

DE 3838620 discloses a thermometer comprising an optically distinguishable liquid (transfer). DE 3838620 does not explicitly suggest an expansion liquid.

Any inquiry concerning this communication should be directed to the Examiner Verbitsky who can be reached at (571) 272-2253 Monday through Friday 8:00 to 4:00 ET.

GKV

Gail Verbitsky
Primary Patent Examiner, TC 2800

October 19, 2004